FINANCIAL STABILITY AND ECONOMIC GROWTH: SOUTH AND EASTERN EUROPEAN COUNTRIES

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Abstract: *The growth of the financial sector in most countries has not been simultaneous with obtaining long-term financial macroeconomic stability for them. Studies in the literature have focused mainly on the level of public spending and fiscal deficit, and less on the lending sector in the economy. This study analyzes the role played by the development of the credit sector in macroeconomic stability, in the period 1995-2019. The countries chosen for the analysis are the countries of South Eastern Europe. The results show that in the long run the growth of the credit sector has had a beneficial effect on the economies, with two notable exceptions, however, Greece and Montenegro.*
Keywords: *financial stability, economic growth , ARDL model, South and Eastern European Countries*

INTRODUCTION

Financial stability requires the successful implementation of macroprudential policies based on the identified risks, and as accurately as possible the identification of the relations between the international and domestic economic environment, financial institutions and markets, macroeconomic policies used by the government. Precisely due to these interconditionings, fiscal policy can play a decisive role as an intermediary between the real economy and the financial system. Also, due to its cyclical or anticyclical character, fiscal policy can influence the development of economic cycles. Although the role and major importance of fiscal policy is unanimously recognized, the literature on this subject is extremely rarefied, and due to the continuous evolution of the tools used.

The relationships that are established between financial markets and the real economy are particularly complex, and the risks that can arise are extremely many. Identifying and combating these risks makes the mission of macroprudential policies an extremely difficult and difficult task for public authorities.

A cornerstone for macro-prudential policies is the stability of the banking sector, given the economic consequences and costs that banking crises generate. In countries in transition in Southeast Europe, trends over the past 30 years have been dominated by the privatization of former state-owned banks, the entry into the market of multinational banks with foreign capital and the subsequent consolidation of the banking system. During the transition to a market economy, most SEE states went through banking crises that severely affected their financial systems. The factors that led to these crises were some structural:

unstructured state enterprises, lack of financial knowledge for companies, lack of financial education for banks.

For SEE countries, the financial system is dominated by banks, due to their role in financing companies that do not have sufficient resources, and it also has a simple structure, vertical, compared to Western countries.

This article analyzes the role that financial development (in the form of loans granted by the banking system to the population) has on economic development in the countries of southern and eastern Europe. The chosen methodology is an ARDL (auto regressive distributed lag) type, the analyzed period being 2000-2019, the series being annual. The novelty of the study is given by the fact that this analysis of financial stability has not been done yet for these countries.

The content of the study involves five parts: the introductory part; the second part follows literature review; the third part presents the methodology and the analysis data; the presentation of the results is the fourth part; for the study to be completed with conclusions.

LITERATURE REVIEW

Zang & Kim (2007) analyze 82 countries using panel methodology to establish the link between financial development and economic growth indicators; the authors conclude that the determining factor in this reality is the economic growth that precedes the financial indicators. The authors conclude that there is a need for a new approach to the role of financial development in the economy, and mainly to a re-establishment of the role of banks in correspondence with the real sector.

Gardó (2009) analyzes the Serbian economy in 2007-2008 and shows that during this period, the Balkan country accumulated a series of strong financial imbalances, which finally led the country to resort to IMF aid in 2009. The rebalancing of the Serbian economy must be done taking into account the fiscal, external and banking sustainability; the latter assuming the presence of foreign banks and the appropriate supervision by the central bank.

Albulescu (2012) analyzes the EU countries in order to establish the determinants of the financial instability transmission to the real sector. The author concludes that the imbalances in the budgetary and fiscal sector amplify the financial imbalance caused by monetary policies.

Naik, P. K., & Padhi, P. (2015) analyze 42 emerging economies to establish the role of financial development on economic growth in the period 1995-2012. The authors show that in addition to the financial sector, other factors (globalization, investment and exchange rate) contribute significantly to the stability of economies.

Vučinić (2015) comparatively compares Montenegro, Serbia and the Netherlands in terms of financial stability and shows that the adoption of fair banking and financial legislation is what made the difference between the three states at the time of the financial crisis.

Đurović-Todorović, Đorđević, & Vuković (2017) analyze fiscal sustainability in Serbia to identify the probability of a public debt crisis for the period 2007-2014, constructing a composite index. The authors show that mainly excessive consumption during this period led to the accumulation of debt, which has negative long-term consequences.

Aikman; Giese; Kapadia; McLeay (2018) develops a new Keynesian model and shows that in the case of the use of monetary policies, their effect can be increased or mitigated if we take into account the financial buffer available to European states.

Asanović (2018) analyzes the potential triggers for banking crises in the period 2005Q1-2014Q4, for 5 countries in South and East European countries: Montenegro, Serbia, FYR Macedonia, Bosnia and Herzegovina, and Croatia. The car takes into account a number of factors (loans, deposits, capital, capital assets, reserves) and concludes that the main influences are capital, deposits, reserve requirements to determine the probability of a financial crisis.

Smets (2018) discusses the use of monetary policies to target inflation, and especially their effectiveness on financial stability. The author concludes that old theories need to be improved in order to introduce the obligation for central banks, along with price stability, and to maintain long-term financial stability.

Çitaku, S., Asllani, G., Luboteni, G., & Grima, S. (2020) analyze financial stability for the countries of the Western Balkans using as indicators financial integration and banking supervision. The authors conclude that for these countries the main disruptive factors are non-performing loans and low bank capital rates. Another important factor to follow will be the adoption of European banking legislation and the integration of the banking systems of the respective countries with the Western European banking system, which will lead to an increased financial stability.

METHODOLOGY

Based on the studies from the specialized literature, considering the present analysis factors, we will develop the following model:

$$f(economic\ growth)_t = a_0 + a_1\ x\ Financial_t + a_2\ x\ GFCF_t + a_3\ x\ Trade_t + a_4\ x\ Population_t + a_5\ x\ Inflation_t$$

where: economic growth represents economic growth

financial development - the share of loans granted to the population by the financial sector;

GFCF - gross fixed capital training;

Trade - the volume of foreign trade, consisting of cumulative exports and imports;

Population - resident population on January 1;

Inflation - the annual inflation rate.

The data used in the analysis are annual data, the data source being World Bank Indicators, IMF Outlook and Eurostat. All variables are seasonally adjusted and are logarithmic.

Equation 1 turns properly into two equations, long-term and short-term. The long-term equation is as follows:

$$Economic\ growth_{ta} = a_{a0} + a_{1a}economic\ growth_{t-1} + a_{2a}financial_{t-1} + a_{3a}GFCF_{t-1} + a_{4a}Trade_{t-1} + a_{5a}Population_{it-1} + a_{6a}Inflation_{t-1} + \varepsilon_{it} \qquad (2),$$

Where a_{0a}, a_{1a}, a_{2a}, a_{3a}, a_{4a}, a_{5a} si a_{6a} are the long-term parameters of the model.

The equation for the short-term relationship can be written like this:

$$\Delta economicgrowth_{it\text{-}ia} = a_{b0} + \sum_{i=1}^{p} a1beconomicgrowth_{t\text{-}b} + \sum_{i=1}^{p} a2b\ financial_{t\text{-}b} + \sum_{i=1}^{p} a3b\ GFCF_{t\text{-}i} + \sum_{i=1}^{p} a4b\ Trade_{it\text{-}i} + \sum_{i=1}^{p} a5bPopulation_{t\text{-}1} + \sum_{i=1}^{p} a6bInflation_{t\text{-}i} + \lambda ECT_{t\text{-}1} + \varepsilon_{it\text{-}i} \quad (3),$$

Where a_{0b}, a_{1b}, a_{2b}, a_{3b}, a_{4b}, a_{5b} si a_{6b} are the short-term coefficients, ECTt-1 it is the factor of integration.

RESULTS

Our analysis was performed on 9 countries in South Eastern Europe: Albania (ALB), Bosnia and Herzegovina (BIH), Bulgaria (BGR), Croatia (HRV), Greece (GRC), Montenegro (MNE), North Macedonia (MKD), Romania (ROU) and Serbia (SRB). The analysis was performed in the period 1995-2019, the time series being annual. The data source is given by WorldBank Database, IMF Outlook and Eurostat. All variables are expressed in logarithms.

The methodology chosen for the analysis is ARDL (Autoregressive Distributed Lag Approach) and involves: testing the stationarity of the series; testing the integration between variables; calculation of long-term coefficients, calculation of short-term coefficients.

Table 1 presents the descriptive statistics for the variables. GDP growth reached the highest levels in Albania (4.84), Serbia (3.76) and Romania (3.19) and the lowest in Greece (0.8) and Bulgaria (1.1). Financial development has the highest values in Greece (78), Bosnia (52) and Croatia (51), and the lowest in Albania (21) and Romania (23).

Table I Descriptive statistics of the variables

	GDP_growth	Financial_develop	GFCF	Trade	Population	Inflation
ALB	4.845	21.688	28.661	67.647	3.003	5.403
BIH	2.949	52.179	21.441	95.961	3.694	1.959
BGR	1.021	46.401	19.505	101.206	7.772	188.106
HRV	2.409	51.653	21.781	81.941	4.356	2.564
GRC	0.875	78.006	19.567	52.350	10.836	4.048
MNE	3.077	43.199	22.086	104.617	6.168	5.821
MKD	2.407	34.082	20.865	94.819	2.049	7.503
ROU	3.190	23.447	24.258	67.258	21.142	20.924
SRB	3.706	34.189	17.615	73.459	7.329	18.145

Source: own calculation

Table 2 shows the results of the Augmented Dickey-Fuller (ADF) test for testing the stationarity of the series. In order to apply the ARDL model, the time series must be stationary I (0) and I (1). As can be seen from the results of Table 2, all time series are stationary either I (0) or I (1), which makes it possible to apply ARDL.

Tabel 2 Results of Augmented Dickey-Fuller (ADF) test

	GDP_growth	Financial_develop	GFCF	Inflation	Population	Trade

	lvl	dif	lvl	dif	lvl	dif	lvl	dif	lvl	dif	lvl	dif
ALB	-3.89 (0.00)	-5.69 (0.00)	-2.15 (0.22)	-3.87 (0.00)	-3.43 (0.02)	-3.04 (0.04)	-1.88 (0.33)	-6.51 (0.00)	-2.23 (0.20)	-5.60 (0.00)	-1.10 (0.69)	-4.22 (0.00)
BIH	-2.65 (0.09)	-7.03 (0.00)	-2.18 (0.21)	-4.84 (0.00)	-3.24 (0.03)	-3.98 (0.00)	-3.28 (0.02)	-5.45 (0.00)	-1.62 (0.45)	-3.11 (0.04)	-2.02 (0.27)	-7.18 (0.00)
BGR	-2.70 (0.08)	-7.16 (0.00)	-2.04 (0.26)	-5.71 (0.00)	-1.64 (0.44)	-5.35 (0.00)	-2.84 (0.06)	-5.25 (0.00)	-1.27 (0.62)	-6.38 (0.00)	-1.59 (0.46)	-7.26 (0.00)
HRV	-2.58 (0.10)	-5.09 (0.00)	-5.08 (0.00)	-1.98 (0.29)	-1.92 (0.31)	-3.36 (0.02)	-2.54 (0.11)	-6.84 (0.00)	-0.32 (0.90)	-4.49 (0.00)	-1.12 (0.68)	-4.51 (0.00)
GRC	-1.64 (0.44)	-4.75 (0.00)	-1.36 (0.58)	-5.35 (0.00)	-0.23 (0.92)	-3.75 (0.00)	-3.35 (0.02)	-4.91 (0.00)	-1.95 (0.30)	-3.48 (0.01)	-0.60 (0.85)	-4.49 (0.00)
MNE	-3.75 (0.01)	-6.74 (0.00)	-2.27 (0.18)	-2.32 (0.17)	-2.50 (0.13)	-4.07 (0.00)	-3.07 (0.04)	-4.15 (0.00)	-3.08 (0.04)	-3.51 (0.02)	-2.48 (0.13)	-4.19 (0.00)
MKD	-3.71 (0.01)	-6.25 (0.00)	-0.51 (0.86)	-7.81 (0.00)	-2.09 (0.25)	-4.32 (0.00)	-45.27 (0.00)	-27.54 (0.00)	-9.70 (0.00)	-2.15 (0.22)	-0.55 (0.86)	-5.53 (0.00)
ROU	-3.05 (0.04)	-6.58 (0.00)	-1.77 (0.38)	-7.07 (0.00)	-1.72 (0.40)	-4.35 (0.00)	-2.45 (0.13)	-14.10 (0.00)	-7.68 (0.00)	-2.18 (0.21)	-0.31 (0.90)	-5.53 (0.00)
SRB	-2.66 (0.09)	-7.18 (0.00)	-1.92 (0.31)	-4.04 (0.00)	-3.68 (0.01)	-4.08 (0.00)	-1.84 (0.35)	-4.30 (0.00)	3.65 (0.33)	-5.73 (0.00)	-0.80 (0.79)	-5.23 (0.00)

Source: own calculation

Because the analyzed period coincided with the financial crisis from 2008-2010, the analyzed time series may have a structural break. Under these conditions, the series were tested using the Zivot and Andrews unit test to identify structural breakage. The results obtained are presented in table 3. As expected, most of the time series show structural break during the financial crisis of 2008-2010.

Tabel 3 The results of Zivot Andrews unit test

	GDP_growth	Financial_develop	GFCF	Inflation	Population	Trade
ALB	2010 (-7.127)	2004 (-6.017)	2013 (-4.530)	1997 (-15.123)	2005 (-4.467)	1999 (-4.488)
BIH	2008 (-3.706)	2006 (-5.987)	2010 (-5.192)	2010 -(3.894)	2009 (-6.768)	2006 (-3.563)
BGR	1997 (-4.019)	2006 (-8.490)	1996 (-3.409)	1997 (-80.660)	2010 (-2.618)	2005 (-4.135)
HRV	2008 (-4.490)	2017 (-4.986)	2010 (-3.426)	2012 (-4.422)	2010 (-2.244)	2013 (-2.418)
GRC	2006	2002	2009	2012	2011	2010

	(-4.346)	(-3.594)	(-3.317)	(-6.375)	(-5.334)	(-2.434)
MNE	2008 (-4.462)	2006 (-4.714)	2005 (-3.548)	2013 -8.857	2008 -9.312	2003 (-3.426)
MKD	2007 (-3.839)	2006 -6.555	1999 (-3.989)	2009 (-45.095)	1997 (-14.690)	2010 (-3.104)
ROU	1999 (-3.792)	2005 (-4.145)	2010 (-3.843)	2014 (-11.825)	2017 (-8.406)	2009 (-3.813)
SRB	2008 (-4.448)	2008 (-3.788)	2016 (-4.844)	2001 (-9.041)	2010 (-0.077)	2000 (-2.658)

Source: own calculation

To test the presence of the long-term relationship, the ARDL model is used. The selection of the ARDL model was made using the Akaike information criterion (AIC). After selecting the model, we proceeded to calculate the F statistic corresponding to the cointegration. If F-statistic is higher than the maximum value presented (upper bound), then there are cointegration relations between the analyzed variables. The results are presented in Table 4. As can be seen, for all EEA countries, there are cointegration relations.

Tabel 4 The results of cointegration tests (F-bound)

	Selected Model	F-Bounds Test
ALB	ARDL (4, 2, 2, 2, 2, 1)	6.017
BIH	ARDL (2, 2, 0, 2, 1, 2)	7.035
BGR	ARDL (3, 3, 3, 3, 3, 3)	19.612
HRV	ARDL (2, 2, 2, 1, 0, 1)	10.108
GRC	ARDL (2, 2, 1, 2, 2, 2)	5.768
MNE	ARDL (2, 1, 0, 0, 1, 1)	16.250
MKD	ARDL (3, 2, 2, 2, 1, 2)	16.591
ROU	ARDL (1, 0, 0, 0, 0, 0)	14.945
SRB	ARDL (2, 1, 1, 2, 2, 1)	19.770

I(0) 1% 4.134 5% 2.91 10% 2.407 I(1) 1% 5.761 5% 4.193 10% 3.517

Table no. 5 shows the long-term coefficients for the analyzed variables. For six EEA countries, the coefficients are positive for financial development: Albania (0.866), Bosnia (0.233), Bulgaria (0.060), Croatia (0.386), Macedonia (0.338) and Romania (0.711). this indicates that financial development leads to economic growth in these countries. For three EEA countries, the coefficient is negative, which shows that financial development has a negative influence on economic growth: Greece (0.075), Montenegro (-0.156) and Serbia (-0.267).

Tabel 5 Long run estimates coefficient (Dependent variable GDP growth)

	Financial_develop	GFCF	Inflation	Population	Trade
ALB	0.866 [13.322] (0.005)	0.180 [-9.546] (0.010)	1.581 [7.627] (0.016)	114.725 [4.783] (0.041)	0.531 [10.513] (0.008)
BIH	0.233 [3.014] (0.029)	0.237 [1.908] (0.114)	0.352 [3.240] (0.022)	327.290 [4.396] (0.007)	-0.171 [-5.402] (0.002)

BGR	0.060	0.974	-0.010	7.743	-0.189
	[18.227]	[86.282]	[-33.685]	[15.845]	[-98.882]
	(0.034)	(0.007)	(0.018)	(0.040)	(0.006)
HRV	0.386	0.503	0.234	20.722	0.563
	[-2.483]	[0.992]	[0.899]	[2.366]	[4.127]
	(0.037)	(0.350)	(0.394)	(0.045)	(0.003)
GRC	-0.075	0.684	-0.321	-3.801	-0.795
	[-2.584]	[2.840]	[-1.195]	[-0.497]	[-2.242]
	(0.019)	(0.011)	(0.248)	(0.625)	(0.038)
MNE	-0.156	0.795	-0.268	614.173	0.249
	[-1.834]	[4.604]	[-2.491]	[1.594]	[2.050]
	(0.116)	(0.003)	(0.047)	(0.162)	(0.086)
MKD	0.338	1.093	-0.365	6537.461	0.013
	[8.852]	[9.508]	[-8.526]	[13.888]	[0.657]
	(0.009)	(0.000)	(0.001)	(0.000)	(0.546)
ROU	0.711	1.072	-0.127	0.334	0.251
	[-4.472]	[5.213]	[-4.772]	[0.115]	[1.753]
	(0.000)	(0.000)	(0.000)	(0.909)	(0.103)
SRB	-0.267	0.841	0.063	-140.243	0.414
	[-3.295]	[5.703]	[2.630]	[-3.189]	[10.149]
	(0.021)	(0.002)	(0.046)	(0.024)	(0.000)

Source: own calculation

Short-term relationships are analyzed using VECM (-1). The coefficients for VECM, in order to have a long-term relationship, must be between -1 and 0, which is the case for all countries.

Tabel 5 Short run estimates coefficient (Dependent variable ΔGDP growth)

	ΔFinancial_develop	ΔGFCF	ΔInflation	ΔPopulation	ΔTrade	VECM (-1)
ALB	0.158	-0.052	-0.544	-104.147	192.107	-0.651
	[-3.861]	[2.318]	[-10.989]	[-1.028]	[2.318]	[-3.861]
	(0.002)	(0.037)	(0.000)	(0.322)	(0.037)	(0.002)
BIH	0.422	-0.035	0.219	327.290	-0.171	-2.495
	[11.048]	[6.517]	[5.125]	[14.257]	[-12.678]	[-17.816]
	(0.001)	(0.001)	(0.003)	(0.000)	(0.000)	(0.000)
BGR	-0.160	0.974	-0.010	7.743	-0.002	-1.829
	[-61.568]	[86.282]	[-33.685]	[15.845]	[-1.541]	[-569.52]
	(0.010)	(0.007)	(0.018)	(0.040)	(0.366)	(0.001)
HRV	0.386	0.503	0.455	20.722	0.563	-2.146
	[5.206]	[2.903]	[4.882]	[5.498]	[11.456]	[-11.128]
	(0.000)	(0.019)	(0.001)	(0.000)	(0.000)	(0.000)
GRC	0.108	0.702	-1.351	-4.768	0.467	-0.221
	[3.110]	[3.243]	[-2.928]	[-0.112]	[3.612]	[-7.642]
	(0.014)	(0.011)	(0.019)	(0.913)	(0.006)	(0.000)
MNE	-0.156	-0.421	-0.521	614.173	0.142	-2.195
	[-6.174]	[-5.706]	[-3.793]	[12.428]	[2.343]	[-15.083]
	(0.000)	(0.001)	(0.009)	(0.000)	(0.057)	(0.000)
MKD	0.338	1.093	-0.365	6537.460	-0.014	-1.244
	[24.279]	[30.648]	[-23.067]	[50.281]	[-3.737]	[-50.649]
	(0.000)	(0.000)	(0.000)	(0.000)	(0.020)	(0.000)
ROU	-0.954	0.169	0.017	-19.228	-0.004	-1.003
	[-2.485]	[0.371]	[0.354]	[-0.944]	[-0.019]	[-1.003]
	(0.047)	(0.722)	(0.735)	(0.381)	(0.985)	(0.000)

SRB	-0.267	0.841	0.063	-140.243	0.414	-3.498
	[-10.211]	[17.634]	[7.414]	[-26.405]	[32.506]	[-52.616]
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Source: own calculation

In table no. 6 presents the results for short run estimates. For 5 countries the coefficients are positive, financial development having a positive influence on economic growth: Albania (0.158); Bosnia (0.422); Croatia (0.386); Greece (0.108); Macedonia (0.338). for the other 4 countries, the coefficients are negative: Bulgaria (-0,160); Montenegro (-0.156); Romania (-0,954) and Serbia (-0,267).

CONCLUSIONS

This article looked at the impact of the financial sector on economic growth. The analysis was performed for nine countries in South East Europe (Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Greece, Montenegro, North Macedonia, Romania and Serbia) for the period 1995-2019. The methodology used consisted of ARDL (Autoregressive Distributed Lag Approach).

The results are divided into two components. In the long run, the results are either positive for six EEA countries: Albania (0.866), Bosnia (0.233), Bulgaria (0.060), Croatia (0.386), Macedonia (0.338) and Romania (0.711), or negative for three countries. EEA: Greece (0.075), Montenegro (-0.156) and Serbia (-0.267) In the short term, the coefficients for 5 countries are positive (Albania (0.158), Bosnia (0.422), Croatia (0.386), Greece (0.108); Macedonia (0.338), and for the other 4 countries, the coefficients are negative (Bulgaria (-0.160), Montenegro (-0.156), Romania (-0.954) and Serbia (-0.267).

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